U.S. Department of Justice
Drug Enforcement Administration
www.dea.gov

PHYSICAL TASK TRAINING (PTT)

CONTENTS

LIST OF ATTACHMENTS

INTRODUCTION

The major objective in physical training is to cause biologic adaptations to improve performance in specific tasks. This requires adherence to carefully planned and executed activities.

Applicants with superior physical training and conditioning are stronger, better coordinated and less subject to injury. Training and conditioning can be broken down into three basic components, the development of: (1) muscular fitness (2) joint flexibility and (3) aerobic fitness. All three components are necessary in a training program to maximize safe physical performance.

The cornerstone of physical training is the law of specificity which means that the body makes specific adaptation to imposed demands. The more specific the demands, the more specific the adaptation. Pre-training programs and tests should be as specific as possible to those delivered during BAT class.

Minimum levels of strength, flexibility and cardiovascular endurance are necessary to ensure safe, progressive participation in the specific physical events demanded from basic agent trainees. Physical conditioning affects proficiency in the safe operation and handling of all weapons in the DEA arsenal as well as in the application of defensive tactics holds and use of handcuffs on a passive training partner.

PURPOSE

The purpose of this training packet is to help you understand the physical tasks demanded during the DEA Basic Agent Training (BAT). The suggested training methods provided in this booklet can help prepare you for safe and successful participation.

The objective of the BAT Pre-Training Packet is to ensure that applicants selected for employment report to BAT class in the best possible physical condition, fully accustomed to a daily fitness regime and able to successfully complete the PTT. This packet includes a training guide along with a variety of exercises to assist you in preparation for the PTT.

PHYSICAL TASK TESTS (PTT) GENERAL PROCEDURES

DEA requires that all basic agent applicants take the Physical Task Test (PTT) during the application process. The purpose of the PTT is to provide the DEA with an indication of the applicant's present ability to successfully participate in strenuous physical activity during BAT class. The DEA Physical Task Test Administrator (PTTA) administers the PTT to the applicant. The PTTA will score your performance in the following physical tasks:

PULL-UPS

SIT-UPS

PUSH-UPS

SHUTTLE RUN

2.0 MILE RUN

The above tasks are performed in the order listed, one after the other with minimal rest between events. PTT protocols are described in ATTACHMENT 1 through 16. The applicant must achieve a minimum score on the PTT before receiving a final offer of employment and before the applicant is selected for BAT class. If selected to attend BAT class, additional PTT tests will be administered during the course of training.

BAT PHYSICAL TRAINING PROGRAM

Trainees are subjected to a rigorous daily physical training program during BAT class. This daily program may include the following:

- ❏ **Strength Training:** Routines which include calisthenics and variations of sit-ups, push-ups and pull-ups at least three days per week.
- ❏ **Flexibility Training:** Routines that stretch the areas of the lower back, hips, legs, shoulders, arms, and neck at least three days per week.
- ❏ **Agility Training:** Timed shuttle runs and obstacle courses several times during length of course.
- ❏ **Cardiovascular Training:** Short, fast running courses and long slow running courses over flat or cross-country terrain three to four days per week.
- ❏ **Defensive Tactics Training:** Includes using limbs to block and give blows, throws and control holds, boxing, taking falls, takedowns, grappling/tactical ground fighting, confrontational cuffing, firearm retention and gun disarming. (Defensive tactics techniques will include exposure to cayenne pepper spray).

GENERAL TRAINING CONCEPTS

ADAPTATION: Training creates subtle changes in the body as the body responds to increasing demands. Day-to-day changes are generally so small as to be unmeasurable. Weeks and sometimes months are required to achieve improved respiration, heart function, circulation, muscular strength, power, endurance as well as tougher bones, ligaments, tendons and connective tissue.

OVERLOAD: Training must place demands on the body, which are greater than what the body is currently capable of handling. The rate of improvement is related to the following three factors:

- ❏ **Frequency:** how often the exercise is performed. Example: 3-5 times a week.
- ❏ **Intensity:** the degree of strength, energy, or difficulty of the exercise. Example: 60–90% age predicted maximum heart rate.
- ❏ **Time:** the duration of the exercise. Example: 30-60 minutes of continuous aerobic exercise.

MUSCULAR FITNESS

An individual's degree of muscular fitness depends on a combination of the following:

1. **Strength:** the greatest amount of force a muscle or muscle group can exert in one movement
2. **Power:** the speed of movement or rate at which a resistance can be moved
3. **Endurance:** how long a muscle or group of muscles can continue to function with their available strength over a period of time

Muscular fitness may be improved with calisthenics, free weights, or weight machines. The key is to apply resistance to various muscle groups for a sufficient period of time or number of repetitions. In general, strength and power training uses high resistance with low repetitions and endurance training uses low resistance with high repetitions.

A safe, basic muscular fitness development program must include the following:

- ❏ **Warm-up and cool down:** Gradually increase and decrease heart rate in order to prepare the body for exercise and cessation of exercise through a balanced combination of rhythmic limbering exercise and static stretching.
- ❏ **Major muscle groups:** Progress from large to small muscles and work each muscle group.
- ❏ **Full range of motion:** Always perform an exercise through the entire range of movement that is possible around a specific joint or joints. This will increase muscle strength when taken through the entire range of motion of exercise and it maintains adequate joint mobility.
- ❏ **Positive and negative phases:** The positive phase is the most difficult portion of the exercise and the negative the least difficult. When the positive phase of the exercise can no longer be performed, continuing to work the negative phase is very helpful in gaining strength and is an excellent way to intensify the training effect of a workout.
- ❏ **Opposing muscles:** Strength development must be balanced in order to maintain symmetry and prevent injuries. For example, if the abdominals are strengthened, the lower back must also be strengthened.
- ❏ **Proper breathing technique:** Always ***breathe*** when lifting. Exhale during any positive phase (lifting the weight) and inhale on the negative phase (lowering of the weight). Not breathing correctly and holding your breath will create muscle fatigue at a faster rate. Holding your breath can also cause a Valsalva maneuver causing reduced blood flow to the heart and insufficient oxygen supply to the brain, which could cause dizziness and temporary loss of consciousness.

- ❑ **Progression:** To achieve adaptations using the overload principle, training must follow the principle of progression. When the training load is increased too quickly, the body cannot adapt and instead breaks down. Training cannot be rushed. The body requires gradual increases in demand as well as periods of rest in order for adaptations to take place.
- ❑ **Specificity:** The types of training you undertake must relate to the desired results. Performance improves most when the training is specific to the activity. For example, to train for an endurance event such as a marathon, you would practice long distance running, not wind sprints.
- ❑ **Warm-up:** Warming up prepares the body for exercise by gradually increasing heart rate and blood flow, raising the temperature of muscles and connective tissue, and improving muscle function. Warm-ups guard against muscle, tendon, and ligament strains. Whether running, performing calisthenics, or lifting weights, it is essential to warm-up first, then stretch.
- ❑ **Cool-down:** The cool-down is just as important as the warm-up. Without a gradual cool-down period, an abrupt cessation of vigorous activity leads to pooling of the blood, sluggish circulation, and slow removal of waste products. It may also contribute to cramping, soreness, lightheadedness and/or fainting, or more serious problems such as irregular heartbeats. Moderate to slow, rhythmic movements for the upper and lower body will enable the muscles of the extremities to pump the blood back to the heart and brain and help the circulation in the removal of metabolic wastes and lowering the body temperature.
- ❑ **Fluid replacement:** When you exercise intensely, indoors or out, in warm or cold environments, you need to replace fluids lost through sweating. Fluids transport nutrients to and from the working muscles, dissipate heat and eliminate waste products. At the very least, neglecting to compensate for fluid loss can cause lethargy and nausea, interfering with your performance. Severe water loss can be hazardous to your health, potentially producing heat exhaustion, heat cramps or heat stroke.

  Heat exhaustion: results from inadequate replacement of fluids lost through sweating. Signs and symptoms include fainting, profuse sweating, flushed skin,mildly elevated temperature, dizziness, hyperventilation, and rapid pulse.

  Heat cramps: extremely painful muscle spasms that occur in your muscles but most commonly in the calf and abdomen. Heat cramps are related to some imbalance between water and several electrolytes or ions (sodium, potassium, magnesium, and calcium).

  Heat stroke: the body will lose the ability to dissipate heat through sweating which is a very serious, life threatening emergency. Signs and symptoms include sudden collapse with loss of consciousness; pale skin; sweating and relatively dry skin; and a core temperature of 106 degrees or higher.

  Even if you don't feel thirsty, it's important to drink at regular intervals when exercising.

- **Adequate footwear:** Nothing is more essential to your training than proper shoes. Wearing improper or worn-out shoes places stress on your hips knees, ankles, and feet. A firm, thick sole, good arch support, and thick padded heel are essential. A good shoe will be well padded under the sole but not terribly difficult to bend at the ball of the foot. A firm heel counter that is perpendicularly attached to the sole is also important. All-purpose tube socks that pull moisture away may help to prevent bothersome blisters.
- **Safety:** The key to successful strength training is the quality of the training or exercises, not the amount of weight used. Injuries are often caused by the desire to lift as much as possible which goes against the main purpose for exercising. Adhering to the principles and techniques of a safe, progressive training program will minimize chances of injury.
- **Rest and recovery:** Rest and recovery time needs to be included in all muscle training programs. Recovery time allows the muscles to build strength. Staleness and retrogression occur when proper recovery time is not allowed. The recovery period for any particular muscle is at least 48 hours between workouts. Also, a rest period of 60-90 seconds between exercises is sufficient for immediate muscle recovery.

JOINT FLEXIBILITY

Flexibility is the mobility or range of motion in a joint. The direction in which the joint bends and the resistance from the surrounding soft tissues such as the skin, tendons, ligaments, and muscles determines this range of motion. Flexibility is highly specific and not equally apparent in all joints of the body.

Muscles that are short and restrict the natural range of motion in the joints are more susceptible to pulls, tears and stress injuries than those that are long enough to allow a full range of motion.

To increase flexibility, muscles need to be regularly stretched slightly beyond their normal length four to seven days a week. For maintaining flexibility, three days a week is probably adequate.

The key to stretching is to remain relaxed during the exercise. For the best results, exhale into a stretch, hold the stretch for 15 to 30 seconds, pause and then repeat the stretch once or twice.

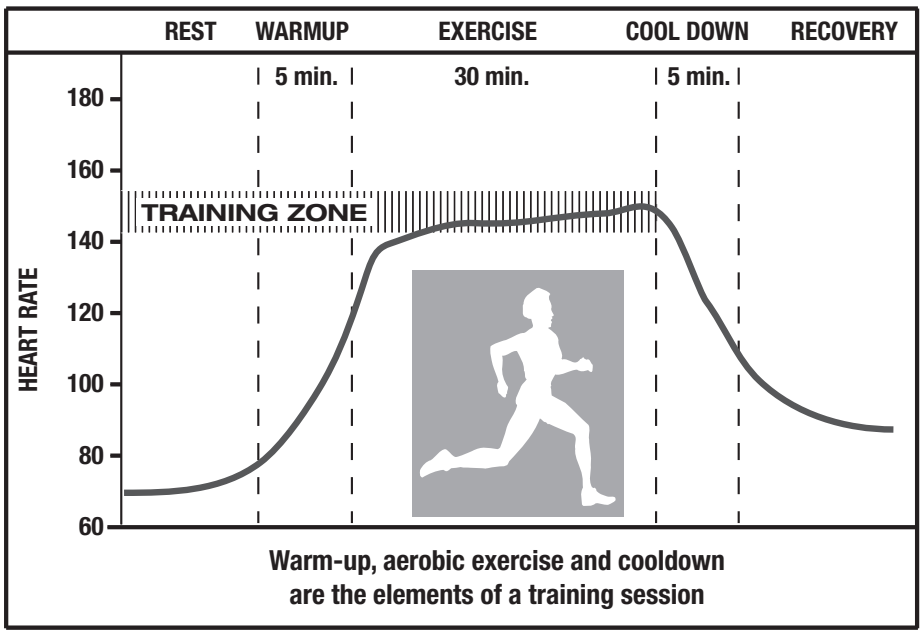
AEROBIC FITNESS

Aerobic fitness describes how well an individual is able to take oxygen from the atmosphere into the lungs and blood, then pump it to working muscles where it is utilized to oxidize carbohydrates and fats to produce energy.

Rhythmic exercises that demand increases in respiration, circulation, and muscle metabolism and that can be sustained for long periods of time are defined as aerobic exercises. Brisk walking, jogging, running, swimming, cycling, cross-country skiing and rowing are a few common aerobic exercises.

Aerobic means with air or oxygen. You should be able to carry on a short conversation while doing aerobic exercises. If you are gasping for air while talking, you are probably working anaerobically (an activity short in duration and high intensity),

Performing aerobic exercises at your target heart rate for 30 minutes (preceded by a 5-10 minute warm-up and followed by a 5-10 minutes cool down) three to five times a week is the accepted standard for boosting your body's ability to utilize oxygen.



Warm-up, aerobic exercise and cooldown are the elements of a training session

One way to tell if your exercise intensity is creating a training effect is by checking your training heart rate. The following four steps help you to determine your target heart rate:
(See Page 31 on how to take your pulse)

STEP 1 220 MINUS FULL AGE = **MHR (MAXIMUM HEART RATE)**

STEP 2 **MHR** MINUS RESTING HEART RATE = **RANGE**

STEP 3 **RANGE** x % INTENSITY DESIRED **(60-90%)**

STEP 4 **PLUS** RESTING HEART RATE = **THE (TARGET HEART RATE)**

* **How to determine your RESTING HEART RATE** – Take your pulse for three consecutive mornings. Add these 3 numbers together and then divide by 3. This number is your resting heart rate.

PRINCIPLES FOR SAFE AEROBIC TRAINING

FREQUENCY

1. AVERAGE FITNESS LEVEL — 3 days a week
2. ABOVE AVERAGE FITNESS LEVEL — 5-6 days a week

INTENSITY

1. AVERAGE FITNESS LEVEL — 70-75% Maximum Heart Rate
2. ABOVE AVERAGE FITNESS LEVEL — 80-90% Maximum Heart Rate

TIME

1. AVERAGE FITNESS LEVEL — 30 Minutes
2. ABOVE AVERAGE FITNESS LEVEL — 45-60 Minutes

TYPE

LARGE MUSCLE ACTIVITY

RYTHMIC MOVEMENT

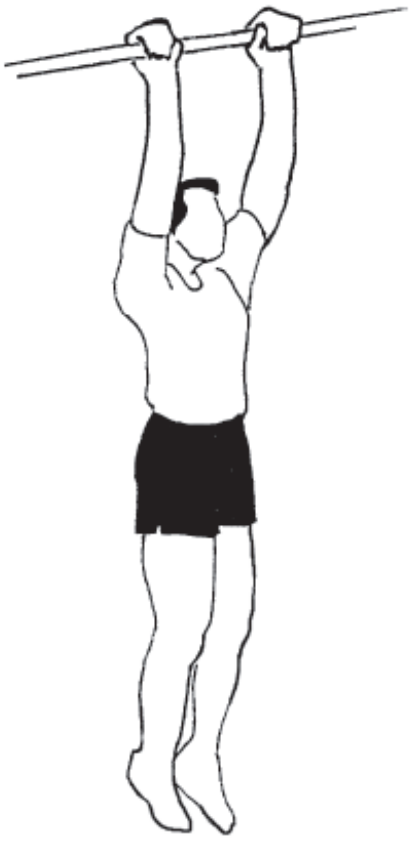
CONTINUOUS vs. START/STOP ACTIVITY

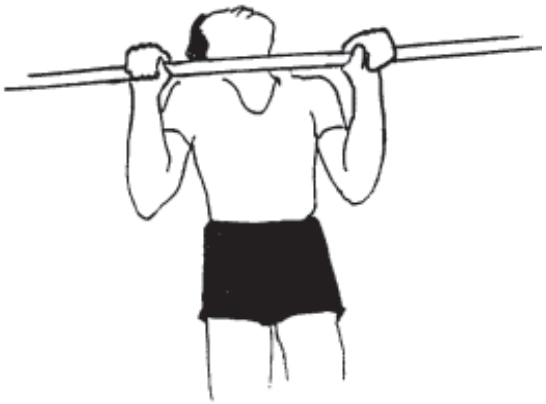
SUGGESTED EXERCISES:

PULL-UPS

Pull-ups strengthen the upper back. Hang from a chin-up bar with arms fully extended, hand position is slightly wider than shoulders, grip is with palms forward. Pull up until your chin is over the bar. Lower yourself to the starting position. Keep body straight. Repeat as many times as possible. When you can no longer do the "pull" (positive) portion of the pull-up, assist yourself up and lower yourself down slowly until you can no longer do the "down" (negative) portion of the pull-up.

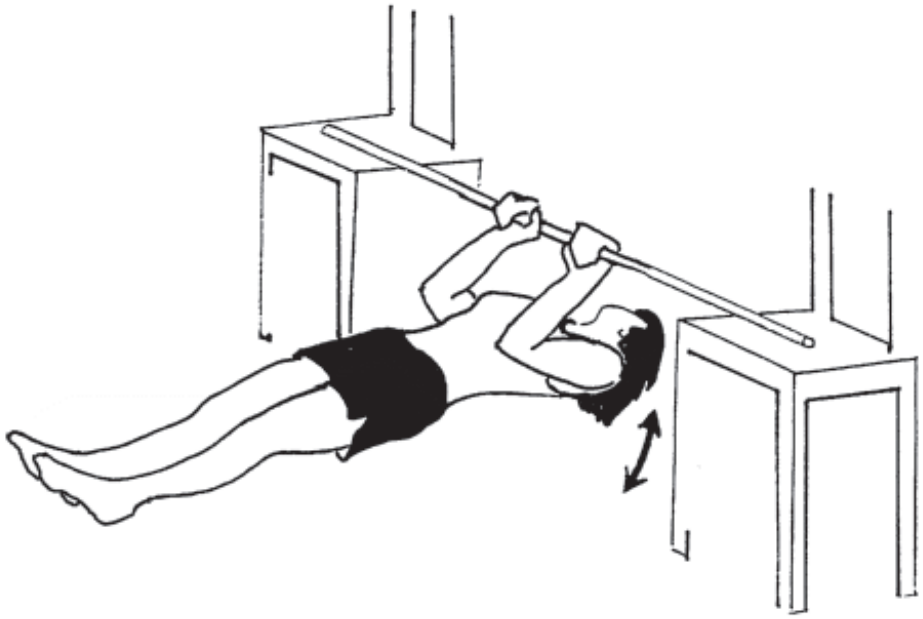
Using basic gym equipment, you can develop the power you need by focusing on the strengthening of the individual muscles involved. If you can increase the strength of your back, biceps and grip through other exercises, you'll eventually be able to do pull-ups. To develop this pull-up strength, you should work your back with your biceps twice per week initially.





BROOMSTICK PULL-UP

Place two chairs about two feet apart, then lay a thick broomstick or metal pipe across the gap. Lie on your back directly beneath the makeshift "chinning bar". Reach up and grasp the bar, placing your hands about shoulder-width apart. Keeping your feet on the floor and body straight, pull yourself up until your shoulders are even with, or above your elbows. Slowly lower your body until arms are fully extended and repeat. Repeat as many times as possible. When you can no longer do the "pull" (positive) portion of the pull-up, assist yourself up and lower yourself down slowly until you can no longer do the "down" (negative) portion of the pull-up.



SUGGESTED TRAINING WORKOUT:

It is very important to remember to breathe while you are doing these exercises. Exhale during any positive phase (lifting of the weights) and inhale on the negative phase (lowering of the weights).

EXERCISE	SETS	REPS
PARTNER-ASSISTED PULL-UP	**3**	**5-7**

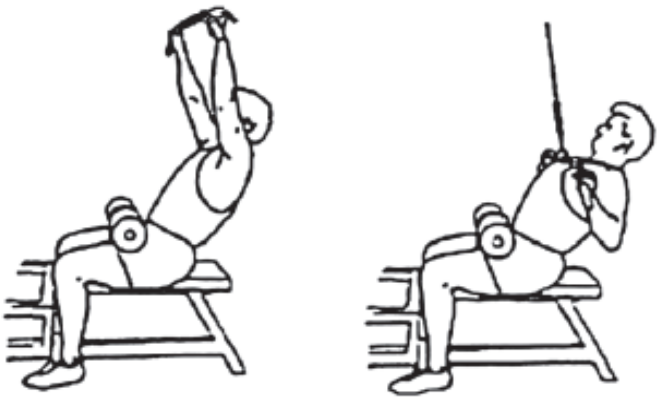
Grasp the pull-up bar with a lightly wider than shoulder width overhand grip. Bend your legs 90 degrees and cross your feet. Have your spotter place his hands under your ankles. Pull upward, aiming to hit the bar with the tip of your chest. Push down against your partner's hands when you need a little help, don't let him lift you. When you reach the bar, slowly lower yourself to the starting position.

ASSISTED NEGATIVE PULL-UP	**1**	**5-7 (MODERATE WEIGHT)**

Using either a stool or a partner, position yourself in the "up" half of a pull-up and hold yourself there for as long as possible. As you tire, lower yourself as slowly as possible and repeat.

WIDE-GRIP PULLDOWN	**4**	**10-12 (EACH ARM)**

Sit at a Lat Pulldown machine and grasp the bar with a wide overhand grip. Pull the bar down to your chest, pushing your chest out to meet it. Slowly return the bar to the starting position and repeat. Make sure you push down toward the floor with your elbows instead of pulling with your biceps. Your biceps will still be involved, but your Lats will get the bulk of the work.



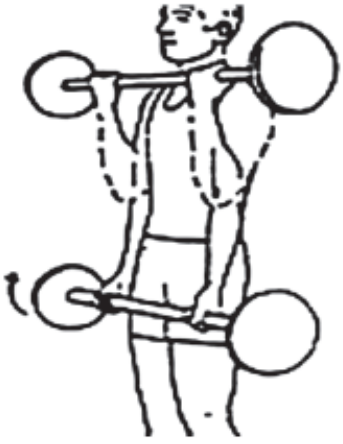
SUGGESTED TRAINING WORKOUT: (continued)

It is very important to remember to breathe while you are doing these exercises. Exhale during any positive phase (lifting of the weights) and inhale on the negative phase (lowering of the weights).

EXERCISE	SETS	REPS
DUMBBELL ROW	**3**	**10-12**

With a dumbbell in your right hand and your left hand and knee resting on a bench, lean forward until your back is parallel to the floor and your right arm hangs straight down. Pull the dumbbell up to your abdomen, slowly lower and repeat. Finish the set, then switch arms.

STANDING BARBELL CURL	**4**	**10-12**



Stand holding a barbell at arm's length in front of you, palms facing out. Slowly curl the bar to shoulder level moving only your forearms. Pause at the top, squeeze, slowly lower and repeat. Make sure you stand with your knees slightly bent and back erect to avoid thrusting your hips forward.

SUGGESTED EXERCISES:

SIT-UPS

Perform sit-ups three days per week or every other day keeping to the proper form described on page 24. Do the maximum number of sit-ups that you can one day a week. Try to improve on the number you do every week. On the other two days, do slow sit-ups in the positive and negative phases. In the positive phase, assume your regular sit-up form in the down position, slowly raise yourself up, taking approximately four seconds, then return to the down position in one second. In the negative phase, start in the up position, slowly lower yourself taking approximately four seconds, then return to the up position in one second. Do as many slow sit-ups as possible, emphasizing precision and proper form. Remember to exhale as you come up for the sit-up and inhale as you relax back to the starting position.

SEATED LEG-TUCK

To strengthen the lower abdominals, sit on a flat bench, place your hands behind your buttocks and grasp the bench for support. Sit back slightly and raise your feet a few inches off the floor. Bend your knees and bring your torso slightly forward until your thighs touch your chest. Return slowly to starting position. Inhale during the contraction and exhale as you lower your legs. Begin with one set of 10 and work your way up to three sets of 15 to 20.

SUGGESTED EXERCISES:

PUSH-UPS

The push-up remains one of the best upper-body exercises around, in that it can be performed anywhere, requires no equipment, and is easily adapted to any level of proficiency. The standard push-up works muscles in the shoulders, back of upper arms, and chest. It also exercises muscles in the abdomen, hips, and back, which are tensed to keep the body stiff while it moves up and down. However, these benefits occur only when push-ups are performed properly.

Perform push-ups three days per week or every other day keeping to the proper form described on page 25. Do the maximum number of push-ups that you can one day a week. Try to improve on the number you do every week. On the other two days, do slow push-ups. Assume your regular push-up form in the down position, and then slowly push yourself up, taking approximately four seconds. Start by doing as many push-ups in this manner as possible, emphasizing precision and keeping your back straight and head up.

When you can no longer do the "push" (positive) portion of the push-up, let your knees rest on the floor to help you return to the up position. Once back to the up position, lift your knees off the floor (supporting points are now toes and hands) and let yourself down slowly until you can no longer do the "down" (negative) portion of the push-up.

Start by doing one set of these slow push-ups. After the first couple of weeks, increase to two sets with approximately a one-minute rest between sets.

Working the negative portion of the push-up will do two things. First, you will stress your muscles sufficiently to increase their strength. This won't happen if you merely do a set or two of 25 to 30 push-ups. Second, you will increase the number of correctly performed push-ups you can do more quickly than if you stop when you can no longer do the positive portion of this exercise.

Important safety precaution: Be careful, remember to breathe; do not hold your breath.

SUGGESTED TRAINING TIPS AND EXERCISES:

If your body is use to doing push-ups and sit-ups, then passing the event should be easy.

The best way to increase your push-ups is with super-sets. Super-sets are one way to increase your training intensity by decreasing the resting time between sets. They save time and add a variety to your workout. Supersets are compounds of two or more exercises performed with little or no rest between reps and with only minimal rest between sets. An example would be push-ups and sit-ups. While you are "resting" your push-up muscles; you can also increase your sit-up muscles.

Always remember, the slower you do your push-up, the more affect your gravity will have on your strength. Meaning, you are able to do more push-ups at a fast pace, than at a slow pace.

THREE SAMPLE ROUTINES:

I. *Repeat 5-10 times*

10 Regular push-ups

- ❑ Arms are shoulder-width apart

10 Regular crunches

- ❑ Start with your back on the floor, hands behind your head, and your feet flat on the floor with the knees bent.
- ❑ Squeeze your abdominal muscles to raise your head and shoulder blades off the floor. Go back down until your shoulder blades touch the floor.
- ❑ Repeat the motion.

10 Wide push-ups

- ❑ Arms are slightly wider than shoulder-width apart.

10 Reverse crunches

- ❑ Lie down on the floor with legs straight up, knees slightly bent and lower back pressed to the floor.
- ❑ Contracting your stomach (squeeze it like you're squeezing water out of a sponge), slowly lift your hips a few inches off the floor. Keep your upper body relaxed.
- ❑ At the top of the movement, contract your stomach as hard as you can, and hold for a few seconds and exhale.
- ❑ Inhale and slowly lower back down to the floor, stopping just before your relax all the way down.
- ❑ Initiate the movement from your abdominals, rather than swinging your legs.

SUGGESTED TRAINING TIPS AND EXERCISES: ***(continued)***

10 Tricep push-ups

- ❑ Lying on the floor – make a diamond or triangle shape with your hands and place them under your face so that your face will be in the center of the triangle.
- ❑ Elbows are out to your side.
- ❑ Raise your upper body (like a push-up) and push through the heel of your hand, and then slowly lower to the starting position and repeat.

10 Left/Right oblique crunches (10 on each side)

- ❑ Lie with your back flat on the floor.
- ❑ Keep your hands alongside your neck. Don't pull your neck up with your hands. Keep your feet flat on the floor and the small of your back flat against the floor. Crunch forward, lifting your shoulders and upper back off the floor, and keeping your hands tucked in next to your head.
- ❑ Slowly swing your right shoulder towards your left hip, and then lower it. Do the same with your left shoulder, swinging it toward your right hip.

II. Timed workouts are another way to increase your push-ups and sit-ups.

Repeat 2 times

1 minute of push-ups

1 minute of sit-ups

Repeat 3 times

30 seconds of push-ups

30 seconds of sit-ups

Repeat 4 times

15 seconds of push-ups

15 seconds of sit-ups

SUGGESTED TRAINING TIPS AND EXERCISES: ***(continued)***

III.

a. Oblique Twist

- ❑ Lie on your back, knees bent.
- ❑ Raise your head off the floor until your trunk is at about a 45-degree angle.
- ❑ Twist from side to side rapidly 100 times.

b. "Flip right over and do 5 push-ups"

c. Next, do 25 crunches

- ❑ Lie flat on the floor with knees bent.
- ❑ Raise your head and shoulders up until your back is pushed into the floor, hold, lower and repeat.

d. Next, do 25 crunches

e. Raise your head and shoulders up until your back is pushed into the floor, hold, lower and repeat.

f. 6 push-ups

g. 30 Toe Touches

- ❑ Lifting your legs in the air at a 90-degree angle to your body.
- ❑ Raise your torso up and reach with one hand for the opposite leg reaching for your toes.
- ❑ Do 15 reaches per leg for a total of 30 toe touches.

h. 7 push-ups.

i. Do 50 "Rocky Balboas," or twist crunches.

- ❑ One knee is bent with the other straight out. Hands are behind your head.
- ❑ Start pedaling like you would a bike and reach one elbow towards the opposite knee.
- ❑ Alternate sides.

j. 8 push-ups

k. Next, do 50 high-speed bicycles

- ❑ Lie flat and press your lower back to the floor with hands beside your head or to the side of your body.
- ❑ Bring one knee to a 45-degree angle and the other leg is straight out. Begin to pedal like you are riding a bike keeping your lower back pressed to the floor. Just like the "Rocky Balboas" except that you don't use your arms.

l. 9 push-ups

m. Almost done: Another 50 crunches

n. Finish with 10 push-ups

SUGGESTED EXERCISES:

The shuttle run is primarily a speed and agility event, which relies heavily on leg power. Several sessions of the suggested exercises should help improve your running. You can incorporate these recommendations after your normal running routine.

INTERVAL TRAINING

Interval training can be applied to nearly any aerobic exercise. Alternate 15 seconds to three minutes of high-intensity intervals of the same length. During the intense bouts, your heart rate should reach 85-90% of its maximum. During the recovery periods, do not let your heart rate drop below 65% of its maximum.

HILL RUNNING

The extra burden of pushing up hills strengthens all of your running muscles by overload. This kind of training is the most valuable a runner can do, not just because it makes the muscles stronger and more effective, but because it builds the muscles in the act of running. Hill training allows you to develop rhythm and control as you build strength. You may repeat hills once or twice a week, but avoid consecutive days so your legs have a chance to recover. An example would be to sprint as fast as you can up a hill and slowly jog downhill with repeating this series 5 times.

CAUTION: *Problems or injuries in the Achilles and calf areas will worsen under hill work. Contrary to popular belief, running downhill is much riskier for the joints and muscles in your feet and legs than running uphill. To avoid injury, never run straight down a steep hill—run down in a zigzag pattern, leaning slightly forward and keeping your knees bent.*

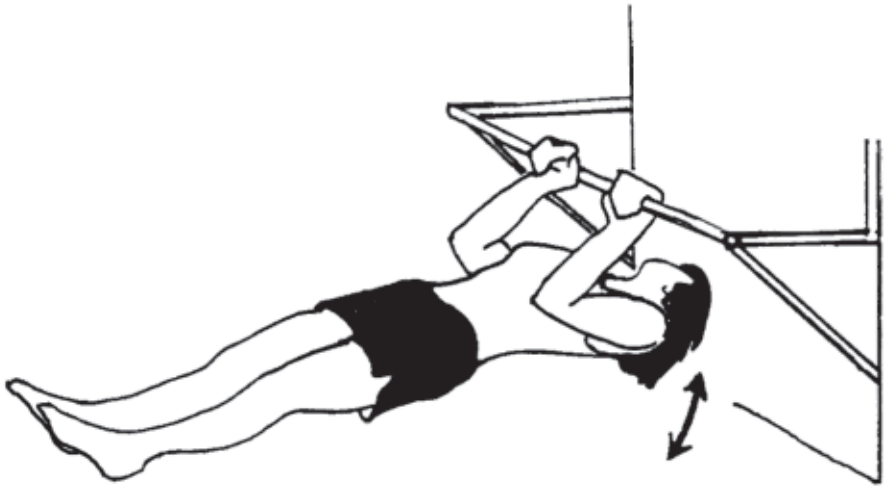
LONG, SLOW DISTANCE RUNNING

A weekly long run is the backbone of any endurance running program. An upright posture conserves energy. Run with your back comfortably straight, head up, and shoulders relaxed. Slightly bend your arms and hold your hands in a comfortable position. Keep arm swing to a minimum—pumping action increases only with speed. Your legs should swing freely from the hip with no attempt to overstride. Your foot strike should be heel to toe push off.

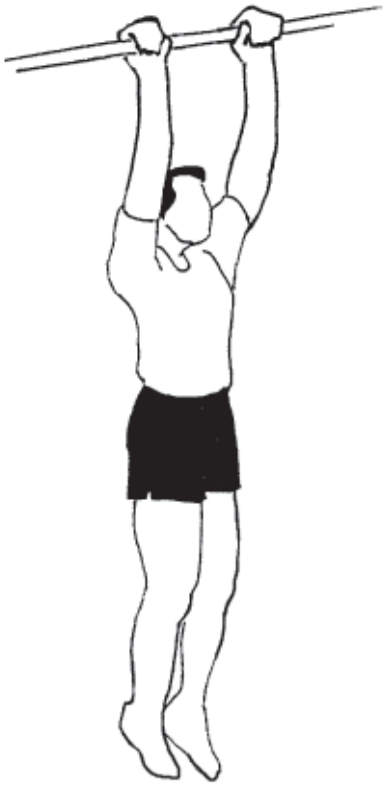
SUGGESTED TRAINING TIPS FOR THE PHYSICAL TASK TEST (PTT)

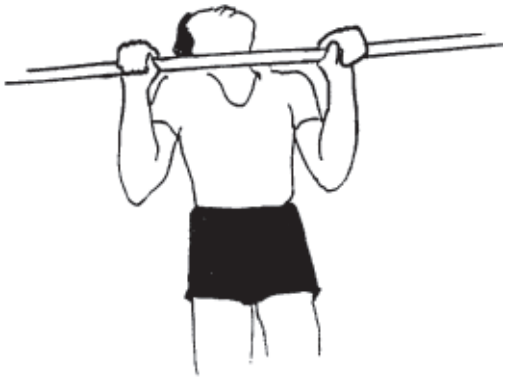
1. PRACTICE! PRACTICE! PRACTICE! The only way you are going to know which tasks you are weaker in is to take the physical task test before you start training and practice those events. This will give you an idea of where you need more work. If you are used to doing the test, then passing the events should be easier, than not knowing what to expect.
2. Remember to keep your body hydrated. A moderate amount of water will help your body function more effectively and prevent some injuries.
3. Exercise with a buddy; it helps to motivate you and there will be someone there in the event of an injury.
4. Although a little muscle soreness is to be expected when beginning a new exercise program, do not aggravate any injuries by continuing to exercise under circumstances of pain or discomfort.
5. Rest days are as important as training days. They give your muscles time to recover. Actually your muscles will build in strength as you rest. Without recovery days, you will not improve and are running the risk of injuring yourself.
6. Run on soft surfaces. Running on trails, grass and dirt not only feels better on a given run, but also reduces the constant stress on your legs. The more you run on soft surfaces, the less you'll have those nagging aches and pains that can develop into major injuries.
7. Breathe! Do not hold your breath. It is very important to inhale while you left the weight and exhale while you are lowering the weight. Not breathing correctly and holding your breath will create muscle fatigue at a faster rate.
8. After your physical task test, don't stop with your exercising routine. You need to maintain your cardiovascular and strength training by going into a maintenance phase of training. You should exercise at least 3 days a week cardiovascular and 2 days of strength training.

- ❏ The Pull-Up Test for WOMEN is performed on a horizontal bar, which is mounted three feet from the floor and two feet from the wall.
- ❏ Female subject begins the pull-up by lying on her back with arms extended upward grasping the horizontal bar. Arms are fully extended at a right angle to the body, hand position is slightly wider than shoulders, and grip is with palms forward.
- ❏ Female subject pulls the body up toward the bar by flexing the arms. The legs and back are held straight with heels touching the floor.
- ❏ As the arms are flexed, the body is pulled up toward the bar until the shoulders are even with, or above the elbows. The body is then lowered (until arms are fully extended) to the starting position. This is one repetition.
- ❏ Female subject MAY NOT REST AT ANY TIME.
- ❏ If subject does not maintain proper form, if body does not remain straight at all times or if feet move, that repetition will not count.
- ❏ Subject should breathe out as she pulls body up and breathe in as she lowers body down.
- ❏ Subject has unlimited time in which to do as many correct pull-ups as she can.



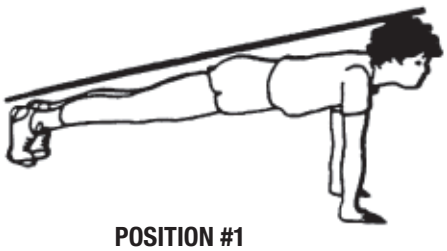
- ❏ The Pull-Up Test for MEN is performed on a horizontal bar, which is mounted above and out of reach of the subject.
- ❏ Male subject begins the pull-up hanging from the horizontal bar. Arms are fully extended, hand position is slightly wider than shoulders, and grip is with palms forward.
- ❏ Male subject pulls the body straight up until the chin is over the bar. The body is then lowered straight down to the hanging position with the arms fully extended (feet must not touch the floor). This is one repetition.
- ❏ Male subject MAY NOT REST AT ANY TIME.
- ❏ If subject does not maintain proper form, or if body does not remain straight at all times, that repetition will not count
- ❏ Subject should breathe out as he pulls body up and breathe in as he lowers body down.
- ❏ Subject has unlimited time in which to do as many correct pull-ups as he can.



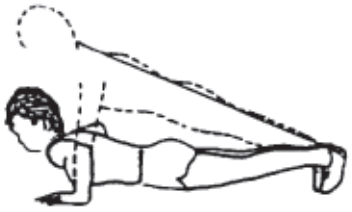


- ❏ Subject begins the sit-up by lying flat on his/her back knees bent at approximately a 90-degree angle, heels in contact with the ground (partner holds the ankles) and fingers interlocked behind the neck.
- ❏ Begin the sit-up by raising the upper body (head and torso) forward to the vertical position (the face of the subject must break the vertical plane).
- ❏ After reaching the vertical position, lower the upper body to the ground until the upper back (shoulder blades) has touched the ground. This is one repetition.
- ❏ The subject MAY NOT REST AT ANY TIME.
- ❏ If subject does not maintain proper form, if motion stops or if fingers do not remain interlocked behind the neck at all times, that repetition will not count.
- ❏ Subject should breathe out as he/she sits up and breathe in as he/she lies down.
- ❏ Subject has 2 minutes in which to do as many correct sit-ups as they can.

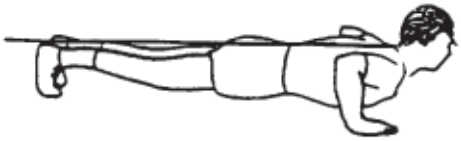
- ❏ Subject begins the push-up by assuming the front-leaning rest position with hands placed just outside the straight line down from the shoulders. The back, buttocks, and legs must be straight from head to heels. Subject is looking straight-ahead (Position #1).
- ❏ Begin the push-up by bending the elbows and lowering the entire body until the tops of the upper arms, shoulders, and lower back are aligned and parallel to the ground (Position #2). Return to the start position by locking the elbows. This is one repetition.
- ❏ The subject MAY NOT REST AT ANY TIME.
- ❏ If subject does not maintain proper form by keeping the body straight, or if the subject fails to lock the elbows completely, that repetition will not count.
- ❏ Subject should breathe out as he/she pushes to the up position and breathe in as he/she lowers the body.
- ❏ Subject has unlimited time in which to do as many correct push-ups as they can.



POSITION #1



THE PUSH-UP



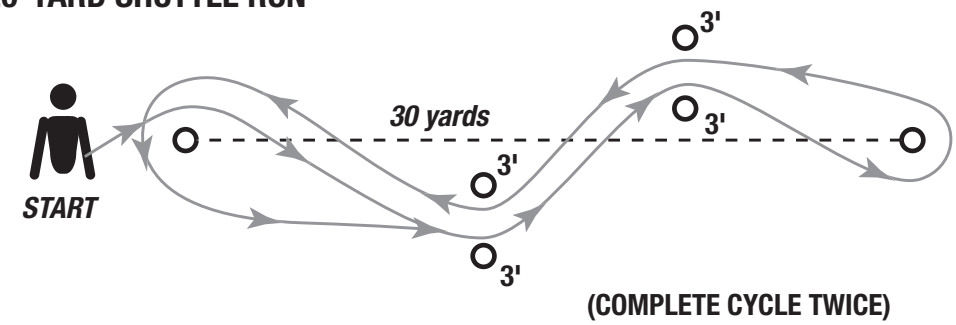
POSITION #2

FRONT VIEW

TOP VIEW

- ❏ The 120-Yard Shuttle Run is conducted on indoor or outdoor track or another suitable running area such as a gymnasium floor.
- ❏ Shuttle course (see diagram below) is measured so that exact distances are indicated as follows:
  - Course is 30 yards long with one traffic cone at each end of a straight centerline.
  - Ten yards from the starting cone, there are two cones set to the right of the center line (placed three feet apart with the inside cone three feet to the right of the center line).
  - Ten yards from the end cone, there are two cones set to the left of the centerline (placed three feet apart with the inside cone three feet to the left of the centerline).
- ❏ Subject begins the shuttle run from the rest position by lying flat on his/her back with head touching the base of the starting cone (feet away from course).
- ❏ On command, the subject regains his/her feet while turning to the RIGHT (keeping the starting cone on his/her RIGHT).
- ❏ Subject proceeds through both sets of double cones and rounds the end cone to the LEFT (keeping the end cone on his/her LEFT).
- ❏ Subject returns through both sets of double cones and rounds the starting cone to the LEFT (keeping the starting cone on his/her LEFT).
- ❏ Subjects repeats the course.
- ❏ The total elapsed time that it takes the subject to run the course twice (for a distance of 120 yards) is recorded in seconds.

120-YARD SHUTTLE RUN



- ❏ The 2.0 Mile Run is conducted on indoor or outdoor track or another suitable running area that is measured so that exact distances are indicated. Test site should be relatively flat (no more than three-percent grade); surface is blacktop/asphalt road which is free of debris.
- ❏ Subjects can be informed of their lap times during the administration of the test.
- ❏ The total elapsed time that it takes the subject to run the distance of 2.0 miles is recorded in minutes and seconds.

PULL-UPS			SIT-UPS		PUSH-UPS		
Points	Male	Female	Points	Male / Female	Points	Male	Female
-5	*	*	-5	0 - 15	-5	*	*
-4	*	*	-4	16 - 21	-4	0 - 4	0 - 1
-3	*	*	-3	22 - 27	-3	5 - 9	2 - 4
-2	*	*	-2	28 - 33	-2	10 - 14	5 - 7
-1	0	0 - 5	-1	34 - 39	-1	15 - 19	8 - 10
0	1	6 - 9	0	40 - 45	0	20 - 24	11 - 13
1	2 - 3	10 - 11	1	46 - 51	1	25 - 30	14 - 17
2	4 - 5	12 - 13	2	52 - 57	2	31 - 35	18 - 21
3	6 - 7	14 - 15	3	58 - 63	3	36 - 40	22 - 25
4	8 - 9	16 - 17	4	64 - 69	4	41 - 45	26 -29
5	10 - 11	18 - 19	5	70 - 75	5	46 - 50	30 -33
6	12 - 13	20 -21	6	76 - 81	6	51 - 55	34 - 37
7	14 - 15	22 -23	7	82 - 87	7	56 - 60	38 - 41
8	16 -17	24 -25	8	88 - 93	8	61 - 65	42 - 45
9	18 - 19	26 - 27	9	94 - 99	9	66 -70	46 -49
10	20+	28+	10	100+	10	71+	50+

SHUTTLE RUN		
Points	Male	Female
-5	31.1 or more	34.1 or more
-4	30.1 - 31.0	33.1 - 34.0
-3	29.1 - 30.0	32.1 - 33.0
-2	28.1 - 29.0	31.1 - 32.0
-1	27.1 - 28.0	30.1 - 31.0
0	26.1 - 27.0	29.1 - 30.0
1	25.1 - 26.0	28.1 - 29.0
2	24.6 - 25.0	27.6 - 28.0
3	24.1 - 24.5	27.1 - 27.5
4	23.6 - 24.0	26.6 - 27.0
5	23.2 - 23.5	26.1 - 26.5
6	22.8 - 23.1	25.6 - 26.0
7	22.4 - 22.7	25.1 - 25.5
8	22.0 - 22.3	24.6 - 25.0
9	21.6 - 21.9	24.1 - 24.5
10	21.5 or less	24.0 or less

TWO MILE RUN		
Points	Male	Female
-5	21:31 or more	24:01 or more
-4	20:31 - 21:30	23:01 - 24:00
-3	19:31 - 20:30	22:01 - 23:00
-2	18:31 - 19:30	21:01 - 22:00
-1	17:31 - 18:30	20:01 - 21:00
0	16:31 - 17:30	18:46 - 20:00
1	15:49 - 16:30	17:56 - 18:45
2	15:24 - 15:48	17:21 - 17:55
3	14:55 - 15.23	17.01 - 17.20
4	14.26 - 14.54	16:31 - 17:00
5	13:57 - 14:25	15:51 - 16:30
6	13:28 - 13:56	15:31 - 15:50
7	12:59 - 13:27	15:01 - 15:30
8	12:30 - 12:58	14:31 - 15:00
9	12:01 - 12:29	13:46 - 14:30
10	12 :00 or less	13:45 or less

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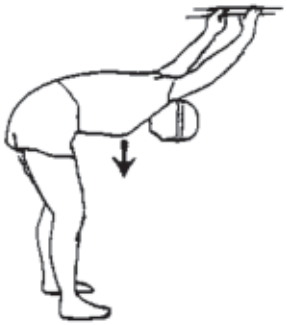
15. 

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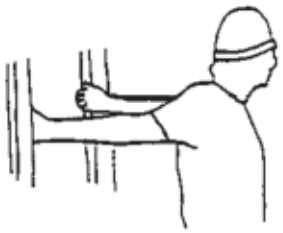
17. 

18. 

19. 

20. 

The underlying principle behind monitoring your heart rate during exercise is simply that there's a direct relationship between how fast your heart is beating and how much exertion your body is experiencing. You can calculate your training heart rate by using the formula that appears below. By taking your pulse rate at either your neck (carotid artery) or wrist (radial artery) – you will be able to monitor the intensity of your workout. Heart rate monitoring is a relatively easy method to regulating your exercise session. The only piece of equipment you will need is a watch or clock that has a second hand. If you would rather not interrupt your workout to monitor your heart rate, you might consider using the talk test.

TRAINING HEART RATE CALCULATIONS

(women and men)	**220**	**-**	_____	(minus) your age
		=	_____	maximum heart rate
		-	_____	(minus) your resting heart rate
		=	_____	heart rate reserve
		×	_____	(multiply) by .6, .7, or .8
		=	_____	determines 60%, 70%, 80% of maximum
		+	_____	(plus) your resting heart rate
		=	_____	your Training Heart Rate

HOW TO TAKE YOUR EXERCISE PULSE RATE:

Refer to the two illustrations then:

1. Locate your carotid artery with the tips of your fingers (it's in the front strip of muscle running vertically down your neck) or find your radial artery by pressing your fingers on the inside of your wrist just below your wrist bone.

2. Take your exercise pulse rate immediately after exercising by counting the number of times your heart beats in 10 seconds.
3. Then multiply your pulse by 6. For example if your heart beats 30 times in 10 seconds, multiply 30 by 6; your exercise pulse rate would be 180.

If you're beginning a class or moving to a more advanced one, take your pulse every 5 or 10 minutes. If it is high, then slow down. If low, speed up a little to get training benefits.

MINOR EXERCISE PROBLEMS

Prevention is the most effective way to deal with exercise problems, however, if you go too far or too fast too soon, forget to do your stretching, have serious muscle imbalances or weak feet, you are bound to have exercise problems now and then. When problems do arise treat the cause, not just the symptom.

BLISTERS

Foot blisters are really minor burns caused by friction. Blisters may be prevented by using good quality, properly fitted, footwear (shoes and socks). At the first hint of a blister, cover the skin with some moleskin or a large bandage. Releasing the accumulated fluid, applying antiseptic, covering the area with gauze and a circle of moleskin can treat advanced cases. Another method that can be effective against blisters is the application of ice over the skin areas that have developed abnormal friction.

MUSCLE SORENESS

Soreness may be due to microscopic tears in the muscle or connective tissues. Soreness usually develops some 24-hour after exercise. Engaging in mild stretching exercises and gradually increasing exercise intensity and duration, followed by a careful cool down can minimize the pain and stiffness of muscle soreness. Warm muscle temperatures and massage also seem to reduce the discomfort of soreness. If there is extreme soreness, the application of ice packs or ice massages to the point of numbness (approximately 5-8 minutes followed by slow stretching). There are two major types of muscle soreness that is associated with exercise:

1. Acute Soreness: occurring immediately after exercise, which is resolved when exercise has stopped.
2. Delayed Soreness: occurring 24 to 48 hours after exercise, which is a more serious problem. This soreness is mainly related to early-season or unaccustomed exercisers.

MUSCLE CRAMPS

A muscle cramp is a powerful involuntary contraction with no relaxation. Immediate relief comes when the muscle is stretched and massaged. It is wise to warm up sufficiently before vigorous effort and to attend to fluid replacement post exercise.

MUSCLE STIFFNESS

Muscle stiffness is different than muscle soreness because it does not produce pain. It occurs when a group of muscles have been worked hard for a long period of time. The fluids that collect in the muscles during and after exercise are absorbed into the bloodstream at a very slow rate. As a result the muscle becomes swollen, shorter, and thicker and therefore resists stretching. Light exercise and massage will assist in reducing the stiffness.

BONE BRUISES

Painful bruises on the bottoms of the feet (usually the heel) can be avoided by quality footwear, careful foot placement, and avoiding hard running surfaces. There is no instant cure once a bruise develops, however, ice may help to lessen discomfort and padding or cushioned inner soles may allow exercise in spite of the bruise.

ANKLE SPRAINS

A sprained ankle should be iced immediately. First aid includes rest, ice, compression (supports or tape), and elevation.

ACHILLES TENDINITIS

Sudden changes in training, such as repetitive over extension or increasing exercise intensity too rapidly may cause inflammation, tightness and pain in the Achilles tendon during and after running. Treatment includes rest, ice and gradual stretching.

SHIN SPLINTS

Pains on the front portion of the shinbone. Lowered arches, irritated or inflamed membranes, muscle tears, muscle imbalances, and hairline can cause them fractures. Rest is the best cure, although taping and cushioned heel pads seem to help in some cases. Preventive measures include gradually increasing exercise intensity, regular stretching, avoidance of hard running surfaces, proper foot placement (heel-toe footstrike), plus occasional reversal of direction when running on a curved track. Ice massage to the shin region followed by general stretching before exercising is beneficial.

KNEE PAIN

Wearing shoes that do not fit well or are worn-out, suddenly intensifying or lengthening workouts without appropriate warm ups and stretching exercises, as well as muscle imbalances or weaknesses in the quadriceps and hamstrings may increase the likelihood of knee injury and pain. First aid includes, rest, ice, and elevation.

ARE YOU OVER-TRAINING? — *Recognizing the Warning Signs*

Energy is a cycle of activity, fatigue, and recovery. When we fail to allow adequate time for recovery, we may begin to notice a decline in our level of performance-not only in sports but in everyday activities. Knowing the symptoms of "overtraining" can help you recognize when it's time to take a break and give your body time to recuperate. If you recognize any of the following warning signs, take a few days off from your normal activity and give yourself a chance to recover your energy.

END NOTE

Each of the symptoms listed may also be associated with other physical conditions unrelated to over-training. If your symptoms persist after 3 days of recovery, call your doctor who can rule out other medical reasons for your problem.

WARNING SIGNS

- ❑ Unexplained weight loss
- ❑ Excessive thirst
- ❑ Persistent muscle soreness
- ❑ Chronic fatigue
- ❑ Decline in performance
- ❑ Appetite loss
- ❑ More colds and infections than normal
- ❑ Irritability
- ❑ Changes in sleep patterns
- ❑ In women, lack of menstruation

WATER AND EXERCISE

Water plays an essential role in the human energy system. During physical activity only 25% of the energy generated by the body is turned into mechanical work-the balance is actually turned into heat. This heat must be removed by sweating to avoid dangerous increases in body temperature. When exercising intensely (especially in hot weather) you can easily lose more than a quart (upwards to 3 quarts) of water in an hour. Neglecting to compensate for such fluid loss can cause throbbing headaches, cramps, nausea, thickening of the blood, increased body temperature, dry skin, lethargy, nervousness, confusion, loss of coordination, a decline in the ability to sustain exercise, convulsions, heatstroke and death.

While thirst is the best indicator of the body's lack of water, it is not a good indicator of the immediate need for water since experts have observed that it is possible to lose up to 2 quarts of water before you are aware of being thirsty. Studies have also shown that thirst is quenched long before you have actually replaced the lost fluids. If fluid replacement is left entirely up to thirst it can take several days after prolonged exercise to reestablish water balance.

It is essential to drink adequate amounts of water BEFORE-DURING-and AFTER physical activity to prevent dehydration. Most experts recommend plain water since it is absorbed more efficiently than any other beverage.

Commercial sports drinks designed to replace electrolytes such as potassium and sodium and supply carbohydrates for energy simply are NOT necessary for the great majority of exercisers. The small amounts of electrolytes that are lost during exercise are easily replaced with a meal. (As for taking in extra carbohydrates during exercise, that practice appears to be beneficial only to people whom exercise rigorously for more than 90-120 minutes at one time.)

TIPS TO ENSURE ADEQUATE WATER BALANCE

- ❏ Drink 6 to 8 (8 ounce) glasses of plain, cool water daily. *Cool water (40°-50°) enters digestive system faster than warm water.*
- ❏ Drink water immediately upon waking up and an hour before or after a meal. *Water will be absorbed better and will not dilute the food*
- ❏ Drink water before and after eating out. *Extra water will flush out added salt and sugar in commercially prepared foods*
- ❏ Drink 16 to 20 ounces of water 2 hours BEFORE exercising and at least 8-ounces of water 15 to 20 minutes BEFORE exercising. *Helps keep body temperature from rising*
- ❏ Drink 3 to 7 ounces of water every 10 to 20 minutes DURING prolonged exercise. *Body loses water quickly through sweat*
- ❏ Drink water AFTER exercise. *For every 1 pound of body weight lost drink 16 ounces of water.*
- ❏ Soft drinks, fruit juices, coffee, tea, and alcohol should NOT be used to restore water levels. *The sugars will slow down water absorption, while caffeine and alcohol will speed up water loss.*

EXERCISE AND THE ENVIRONMENT

Environmental factors such as temperature, humidity, altitude and air pollution have profound effects on health and performance. Failure to consider these effects can lead to serious problems. On the other hand, it is entirely possible to adjust to the environment, enabling you to perform well and comfortably under a wide range of conditions.

ACCLIMATIZATION TO THE COLD

1. Avoid overdressing; wear layers of loose-fitting, thin clothing that can be unzipped or removed as you warm up. Add about 20 degrees to the actual temperature when deciding how to dress. If it's 40 degrees on the thermometer, it will feel like 60-degree weather once you get going.
2. Seventy percent of the body heat you lose during exercise escapes through the head and the hands. To prevent heat loss, wear a wool hat or synthetic hat as well as mittens or gloves.
3. On windy days start out facing into the wind and return with it at your back. Since wind can penetrate clothes and remove the insulating layer of warm air around the body, wear a nylon windbreaker or suit to reduce the wind chill.
4. Water is important for temperature regulation and hydration in both warm and cold weather. Drink fluids before, during and after your workout.

Breathing cold air is not harmful to healthy people; you can't "freeze your lungs." However, it can be risky for those who suffer from angina, asthma, or high blood pressure—they should check with a doctor before exercising in the cold. For such people, wearing a ski mask or scarf pulled loosely in front of the face may help warm up inhaled air.

FROSTBITE AND HYPOTHERMIA

These are the two main dangers of exercising in the cold. Dressing properly and taking other precautions described here are your best safeguards. Be on guard for the numbness and white discoloration of frostbite—particularly on your hands, ears, toes, and face.

Hypothermia, which involves a dangerous drop in body temperature, is mostly a risk when you're out in very cold weather for many hours, especially if you're wet, injured, and/or not moving around enough to stay warm. A person with hypothermia will display many of the signs of a person who is diabetic or one who is intoxicated.

First aid for those suffering from cold injuries is to remove them from the cold environment, warm them as quickly and gently as possible and, if conscious, give warm fluids. Those with frostbite should not rub or massage the frozen tissue. This will only cause more significant tissue damage.

WINDCHILL: WHEN IS IT DANGEROUS?

ON A WINDY DAY AIR CURRENTS MAGNIFY HEAT LOSS AS THE WARMER INSULATING AIR LAYER SURROUNDING THE BODY IS CONTINUALLY REPLACED BY COOLER AMBIENT AIR.

Wind Speed, mph	Ambient Temperature, °F**															
	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	
	Equivalent Temperature, °F															
Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	Calm
5	37	33	27	21	16	12	6	1	-5	-11	-15	-20	-26	-31	-35	5
10	28	21	16	9	4	-2	-9	-15	-21	-27	-33	-38	-46	-52	-58	10
15	22	16	11	1	-5	-11	-18	-25	-36	-40	-45	-51	-58	-65	-70	15
20	18	12	3	-4	-10	-17	-25	-32	-39	-46	-53	-60	-67	-76	-81	20
25	16	7	0	-7	-15	-22	-29	-37	-44	-52	-59	-67	-74	-83	-89	25
30	13	5	-2	-11	-18	-26	-33	-41	-48	-56	-63	-70	-79	-87	-94	30
35	11	3	-4	-43	-20	-27	-35	-43	-49	-60	-67	-72	-82	-90	-98	35
*40	10	1	-6	-15	-21	-29	-37	-45	-53	-62	-69	-76	-85	-94	-101	40*

Little Danger *for properly clothed person*

Increasing Danger

Great Danger

DANGER OF FREEZING EXPOSED FLESH

* *Convective heat loss at wind speeds above 40 mph has little additional effect on body cooling.*

** °C=0.556 (°F-32)

TO BEAT THE HEAT

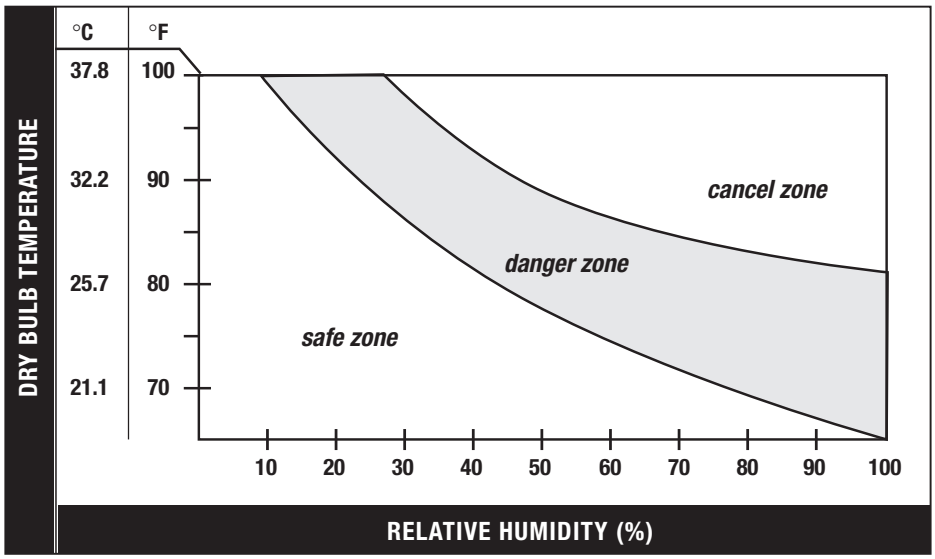
The weather affects us all very differently. Generally, temperature, humidity, direct sunlight, and exertion make us hot; wind evaporates our sweat and cools us off. Here are some special precautions when the temperatures soar:

- ❏ Drink plenty of water before, during and after exercise don't wait until you're thirsty.
- ❏ Exercise during the coolest parts of the day—early morning or evening.
- ❏ Monitor your heart rate frequently; it is a good indicator of heat load.
- ❏ Wear light-colored, lightweight, loose fitting clothing to improve sweat evaporation and heat loss.
- ❏ Wear a light, ventilated hat or visor for sun protection and protective sunglasses.

Symptoms of heat exhaustion include weakness; rapid pulse; dizziness, headache; muscle cramps; general weakness; decreased sweating. If you experience any of these, stop exercising, move slowly to a cooler place (preferably in the shade), and if conscious, drink lots of fluids.

HUMIDITY CHART

THE TEMPERATURE AND HUMIDITY CHART INDICATES AT WHICH TEMPERATURE AND HUMIDITY CONDITIONS IT IS SAFE TO EXERCISE



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EXERCISING AT ALTITUDES

Elevations below 5,000 feet have little noticeable effect on healthy individuals. As you ascend to higher elevations, barometric pressure declines along with available levels of atmospheric oxygen. When this occurs, tissues are forced to operate with a reduced supply of oxygen. Therefore, upon ascent to higher altitudes, exercise intensity should be reduced. Higher elevations require about one week of acclimatization for each 1,000 feet above 5,000 feet. These adjustments reduce but never eliminate the effect of altitude on aerobic fitness. Endurance performances will always be reduced at altitude.

AIR POLLUTION

High levels of air pollution (ozone, carbon monoxide and sulfur dioxide) may necessitate a restriction of the intensity and duration of exercise, particularly for individuals with chronic pulmonary problems.

Ozone is the most worrisome air pollutant because it reacts chemically with body tissues, irritating the delicate linings of the lungs. Symptoms of exposure include head, cough, painful breathing, wheezing and inflammation of the nose and throat.

An Air Quality Index (AQI) of less than 50 indicates good or healthful air; 50 to 99 indicates moderate quality, not healthful for people with respiratory illness. An AQI of 100 to 199 indicates unhealthful air in violation of the federal ozone level, and an AQI of 200 or above indicates “very unhealthy” air that is dangerous to all individuals.

When the AQI exceeds 100, individuals are urged not to exercise outdoors during the peak air pollution hours of 11 a.m. to 7 p.m.

Every workout should be preceded with a proper warm-up. Start with a general warm-up consisting of a light aerobic activity such as stationary bike, walking, jogging, etc. Usually lasting 5-10 minutes.

- ❏ Perform each repetition in a slow, controlled manner.
- ❏ Perform each exercise through a full range of motion.
- ❏ Perform a minimum of 8 to 10 exercises that train the major muscle groups. Workouts should not be too long, a minimum of one hour should be enough time to complete all the exercises.
- ❏ Perform one set of 8 to 12 repetitions to point of volitional fatigue. More sets may elicit slightly greater strength gains but additional improvement is relatively small.
- ❏ Perform exercises for upper body and lower body at least 2 days per week.
- ❏ Maintain a normal breathing pattern. Exhale during any positive phase (lifting the weight) and inhale on the negative phase (lowering of the weight). Not breathing correctly and holding your breath will create muscle fatigue at a faster rate.
- ❏ Increase the weight load of upper body exercises by 5 pounds and lower body exercise by 10 pounds, whey you achieve the prescribed number of repetitions.
- ❏ A key to remember if you are doing 12 repetitions, the 10th, 11th,and 12th repetitions should be a struggle but you are still able to maintain the proper form. If those reps are too easy then you need to increase your weight.
- ❏ If possible, exercise with a training partner. Partners can provide feedback, assistance, and motivation.

The following page gives a sample 8-week guide to train for the Physical Task Test. The exercise chart is a guide for training if you have 8 weeks to prepare for the Physical Task Test. You can modify the training guide to the correct time if necessary. This is just a sample routine to help you achieve your goals.

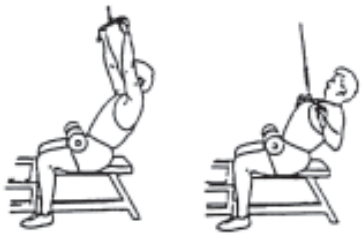
A sample exercise log for upper and lower body can be found on pages 43–44. Also see pages 45–51 for an explanation of the upper and lower body exercises that can be incorporated into your routines.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
WEEK 1	Upper Body Weights Hill Work	1 Mile Run Lower Body Weights	1.5 Miles Interval Training Upper Body Weights	1 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 2	Upper Body Weights Hill Work	1 Mile Run Lower Body Weights	1.5 Miles Interval Training Upper Body Weights	1 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 3	Upper Body Weights Hill Work	1.5 Mile Run Lower Body Weights	2 Mile Run Interval Training Upper Body Weights	1.5 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 4	Upper Body Weights Hill Work	2 Mile Run Lower Body Weights	2.5 Mile Run Interval Training Upper Body Weights	2 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 5	Upper Body Weights Hill Work	2.5 Mile Run Lower Body Weights	3 Mile Run Interval Training Upper Body Weights	2.5 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 6	Upper Body Weights Hill Work	2.5 Mile Run Lower Body Weights	3 Mile Run Interval Training Upper Body Weights	2.5 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 7	Upper Body Weights Hill Work	3 Mile Run Lower Body Weights	2.5 Mile Run Interval Training Upper Body Weights	3 Mile Run Lower Body Weights	Rest Day	Practice All Physical Task Tests	60 Minutes of Cross Training Work on Weak Areas
WEEK 8	Upper Body Weights	2 Mile Run Lower Body Weights	2 Mile Run	Light Cross Training	Rest Day	Rest Day Get A Good Night Sleep!	Physical Task Test Day!!

SAMPLE UPPER BODY WORKOUT LOG (MONDAY'S AND WEDNESDAY'S)				
EXERCISE	**DATE**	**WEIGHT**	**SETS/REPS**	**NOTES (DUMBBELLS OR MACHINES AND HOW YOU FELT)**
Seated Row				
Chest Press				
Chest Fly				
Rear Deltoid				
Lat Pulldown				
Bicep Curl				
Tricep Extension				
Shoulder Press				
Pull Ups				
Push Ups				
Sit Ups				
	MILES	**TIME**	**# OF SERIES**	**NOTES (HOW YOU FELT)**
Running				
Hill Work				
Interval Training				
EXERCISE	**DATE**	**WEIGHT**	**SETS/REP**	**NOTES (HOW YOU FELT)**
Seated Row				
Chest Press				
Chest Fly				
Rear Deltoid				
Lat Pulldown				
Bicep Curl				
Tricep Extension				
Shoulder Press				
Pull-ups				
Push-ups				
Sit-ups				
	MILES	**TIME**	**# OF SERIES**	**NOTES (HOW YOU FELT)**
Running				
Hill Work				
Interval Training				

SAMPLE LOWER BODY WORKOUT LOG (TUESDAY'S AND THURSDAY'S)				
EXERCISE	**DATE**	**WEIGHT**	**SETS/REPS**	**NOTES (DUMBBELLS OR MACHINES AND HOW YOU FELT)**
Leg Press				
Leg Extension				
Leg Curl				
Squats				
Lunges				
Calf Raises				
	MILES	**TIME**	**# OF SERIES**	**NOTES (HOW YOU FELT)**
Running				
EXERCISE	**DATE**	**WEIGHT**	**SETS/REP**	**NOTES (HOW YOU FELT)**
Leg Press				
Leg Extension				
Leg Curl				
Squats				
Lunges				
Calf Raises				
	MILES	**TIME**	**# OF SERIES**	**NOTES (HOW YOU FELT)**
Running				

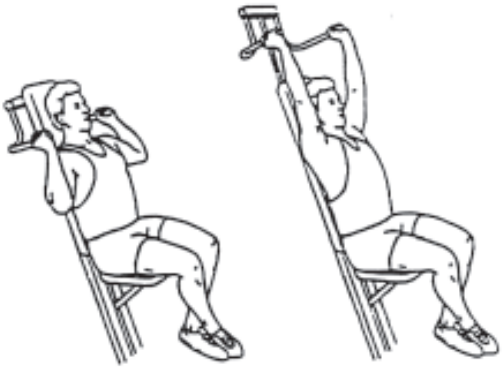
BACK: LATS: Angles Narrow Grip Pulldown. Leaning away from the machine and using narrow grip, pull bar to upper chest area.



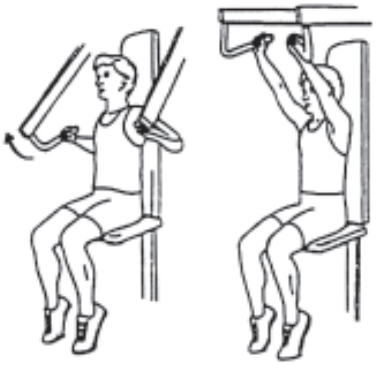
BACK: LATS: Angled Wide Grip Pulldown. Leaning away from the machine and using wide grip, pull bar to upper chest area.

BACK: LATS: Seated Row. From starting position, pull bar to lower chest.

SHOULDERS: Standing Press. With palms facing ears, press to straight arm position rotating palms to face forward at top of movement.



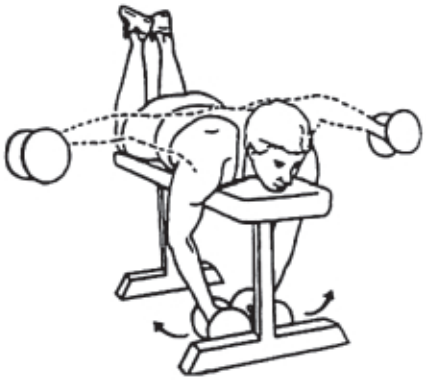
SHOULDERS: Seated Press. From starting position, press grips to straight arm position.



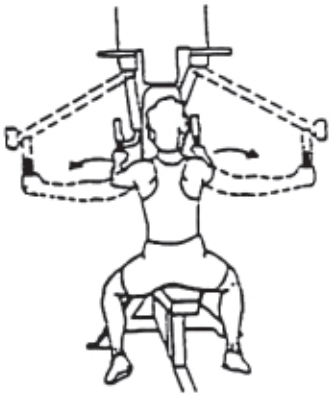
SHOULDERS: Seated Press. From starting position, press hands over head.

SHOULDERS: Seated Press.
Sitting with palms facing ear, press to a straight arm position, rotating palms to face forward at top of movement.

SHOULDERS: Seated Deltiod Raise.
Raise slightly bent arms until parallel with floor.



SHOULDERS: Lying Rear Deltiod Raise.
From high bench, raise slightly bent arms to shoulder height.



SHOULDERS: Rear Deltiod Fly.
With upper body firmly against pad, rotate arms backward as far as possible.

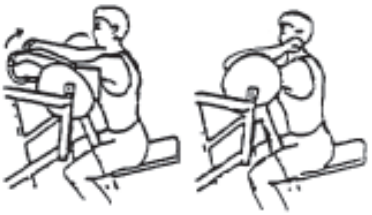
ARMS: TRICEPS: Bent Over Kickback.
Straighten arm backward to elbow-locked position. Repeat with other arm.

ARMS: TRICEPS: Push Down Extension.
With upper arms stationary extend to straight arm position.

ARMS: TRICEPS: Seated Tricep Extension.
From starting position, press grips downward until arms are straight.

ARMS: TRICEPS: Seated Tricep Extension.
Adjust seat so shoulders are slightly higher than support pad. Extend to straight arm position.

ARMS: TRICEPS: Rope Grip Extension.
Leaning away from machine, keep upper arms stationary and extend to straight arm position.



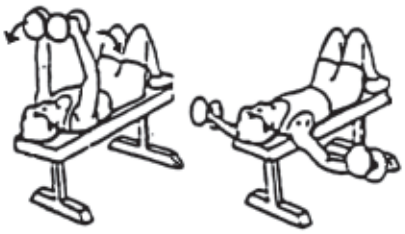
ARMS: BICEPS: Seated Curl.
Adjust seat so upper arms are parallel to support pad. Curl grips to shoulders.

ARMS: BICEPS: Scott Bench Curl.
From straight arms position, curl dumbell to under chin. Can be done with one or both arms.

ARMS: BICEPS: Concentration Curl.
Keeping upper arm perpendicular to floor, curl weight rotating little finger toward shoulder. Repeat with other arm.

ARMS: BICEPS: Seated Incline Alternating Curl.
Keeping upper arms close to sides, curl dumbbell to shoulder and back to straight arm position. Alterante arms.

ARMS: BICEPS: Standing Arm Curl.
From straight arm position, curl bar to chest while keeping arms in line with torso.



CHEST: Bench Fly.
From starting position with arms slightly bent, lower weight to shoulder level with palms facing upward.

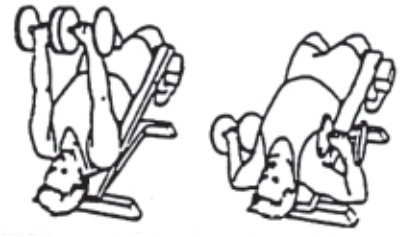
CHEST: Bench Press.
From starting position with dumbbells at chest level, press to straight arm position.

CHEST: Bench Press.
From starting position, lower grips to sides of chest while keeping elbows out away from body. Press to straight arm position.

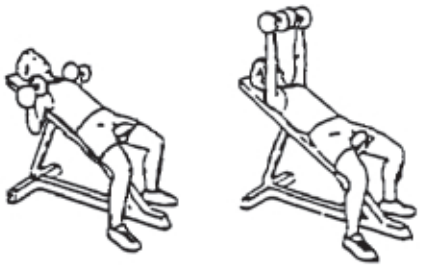
UPPER BODY and LOWER BODY EXERCISES

CHEST: Decline Bench Fly.
From starting position with arms slightly bent, lower weight to shoulder level with palms facing upward.

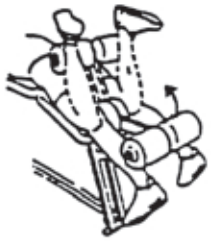
CHEST: Incline Bench Fly.
From starting position with arms slightly bent lower weight to shoulder level with palms facing upward.



CHEST: Decline Bench Press.
From starting position, lower dumbbells to chest level. Return to starting position.

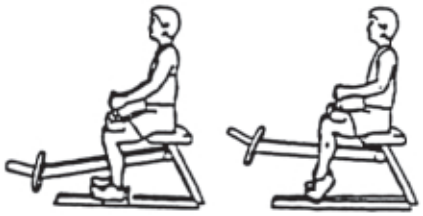


CHEST: Incline Bench Press.
From starting position with dumbbells at chest level, press to straight arm position.



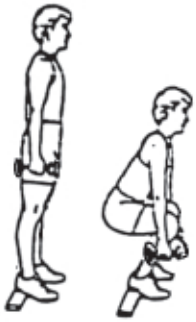
LEGS: HAMSTRINGS: Seated Leg Curl.
Bring heels as close to buttocks as possible, keeping feet flexed toward knees.

LEGS: CALVES: Seated Heel Raise.
Sitting with toes on board and heels on floor, and holding barbell on lower thighs, raise up on toes as high as possible.



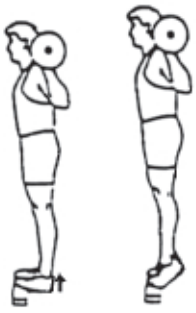
LEGS: CALVES: Standing Heel Raise.
Standing on board with knees locked, rise up on toes as high as possible.

LEGS: Prone leg Curl.
Bring heels as close to buttocks as possible. Keep feet flexed toward knees.

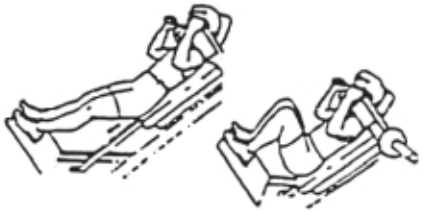


LEGS: GLUTS: Squat.
Standing on board with back straight and head looking upward, bend knees until thighs are parallel to floor.

LEGS: GLUTS: Squat.
Keeping back straight and head looking upward, bend knees until thighs are parallel to floor.



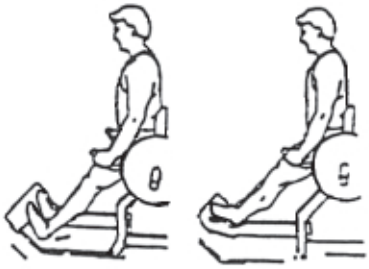
LEGS: CALVES: Leg Press with Heel Raise.
From starting position with legs extended and knees locked, rise up as high as possible on toes.



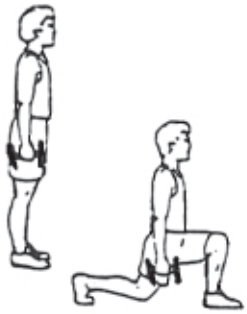
LEGS: GLUTS: Hack Squat.
From starting position, facing away from machine with had up and legs shoulder-width apart, bend legs until upper legs are parallel to footboard.

LEGS: GLUTS: Leg Press.
Press weight until legs are just short of locked-knee position.

LEGS: QUADS: Leg Extension.
Straighten legs to locked-knee position, keeping toes flexed toward knees.

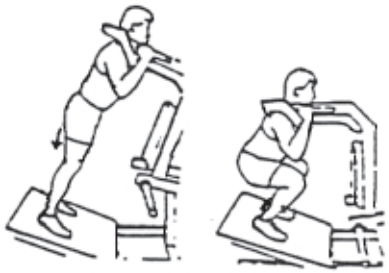


LEGS: CALVES: Seated Heel Raise.
From starting position, rise up on toes as high as possible.



LEGS: GLUTS: Lunge.
With legs shoulder-width apart, head up, and back straight, step forward, bending the leg until thigh is parallel to floor. Return and alternate legs.

LEGS: GLUTS: Lunge.
With legs shoulder-width apart, head up, and back straight, step forward, bending the leg until thigh is parallel to floor. Return and alternate legs.



LEGS: GLUTS: Power Squat.
From starting position, keeping back straight and head up, bend knees until thighs are parallel to footboard.